Ontario

Printers' Waste Ink Recycling Technology

"ProActive Recycling Inc., with the assistance of the Ministry of Environment and Energy has kept more than 8,000 drums of waste ink out of landfill sites, and this is just the beginning. By improving our technology and changing waste management practices, we are achieving our goal of creating a cleaner environment without sacrificing industry's bottom line. The ink we process is no longer a waste but a continuing part of the printing process. We are making the best use of our resources."

Ken Pedersen
President, ProActive Recycling Inc.
Owen Sound, Ontario

ProActive Mobile Printer's' Ink Recycling System in action.

THE COMPANY

A team of three experienced men, an ink technician, a printer and a businessman, from a small community committed themselves to leaving a legacy of cleaner land and water for the next generation. By mortgaging their own homes, and with support of the Ministry of Environment and Energy, they have designed, tested, modified and produced a mobile waste ink recycling system.

Today, ProActive employs twelve people and services an area which includes Ontario, Quebec and the United States, recovering ink from printing companies and ink manufacturers.

THE CHALLENGE

The company's original objective was to place a closed-loop recovery system at the mouth of the waste generation stream. At first, this mouth was the printing company. But today ProActive has moved the recycling technology up the production cycle to ink manufacturers.

How much the ink is processed depends upon the needs of the end user. In all cases, however, only the ink which the customer provides is processed to be re-used by that company. That is what makes this technology a closed-loop system.

To date, ProActive's ink recycling system has recovered more than 8,000, 45-gallon drums of ink. Equally important, ProActive has changed user's perceptions about the quality of recycled ink. At one time, they thought it was inferior to the virgin product. Now, they say that in many cases they prefer the recycled product. What was once waste ink is no longer a waste but a recoverable product which is part of the printing process.

The company hopes that the improvement in the recycling technology and the changes in the customers' thinking about recycled ink will divert thousands of additional drums of waste ink from landfill sites in the years to come.

TECHNOLOGY DESCRIPTION

Industrial printers are the major generators of waste ink. The waste is created during the printing process when the excess ink is skimmed off the plates before they are applied to the surface of the paper. The major contaminant is paper fibre, which in great quantities degrades the final print image.

The ProActive system is a four-color, on-site, mobile ink recycling unit. It collects the ink, color for color, in order to recover it. During the collection stage, the ink passes through a primary screening device which traps ink skins and materials that are not ink. The screened ink is mixed and heated. Once it reaches the proper temperature, the system pumps the ink through a series of step-down filters. Then the ink is adjusted to meet press specifications for tack, shade and other primary characteristics. Once fully adjusted and tested, the ink is packaged in pails, drums or ink totes. This process recovers more than 98 per cent of the ink collected. Very little waste is generated.

RESULTS

ProActive has proven that with proper programs and systems, ink can be recycled, color for color on-site. ProActive has finished building its first commercial unit and has put the system on to the market.

TECHNOLOGY OPPORTUNITIES

The greatest technology is useless if no one uses it. Every printer which produces more than six drums of waste ink a year is a potential customer. The market is large. The most difficult barrier to marketing this technology is the erroneous belief that recycled ink is inferior to virgin ink. ProActive's focus is to stop printers from treating spent ink as a waste to start treating used ink as a resource, using it as a product and a valuable part of the printing process.

PARTNERSHIP IN POLLUTION PREVENTION AND RESOURCE CONSERVATION

The demonstration of this technology was partially funded by the Ontario Ministry of Environment and Energy.

Industrial companies located in Ontario may participate in ministry/industry programs which will help them:

- reduce, reuse and recycle solid waste;
- effectively remediate historic pollution and destroy hazardous contaminants;
- reduce or eliminate liquid effluent and gaseous emissions;
- use energy and water more efficiently.

Equipment and services supply companies may benefit from the information provided on technologies identified for business development.

FOR FURTHER INFORMATION, PLEASE CONTACT:

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MINISTRY OF ENVIRONMENT AND ENERGY PROGRAMS

For information on Ministry of Environment and Energy assistance to industry, please contact the Industry Conservation Branch at (416) 327-1492, Fax (416) 327-1261

This project profile was prepared and published as a public service by the Ontario Ministry of Environment and Energy. Its purpose is to transfer information to Ontario companies about new environmental technologies.

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